IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: **WANG, XIAO-PING**	Examiner: Nguyen, Kimnhung T.
Serial No.: **10/728,152**	Art Unit: 2629
Filed: **12/04/2003**	Attorney Docket Number: LED.01
For: **LINEAR LED ARRAY**	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE TO OFFICE ACTION &
RESPONSE TO NON-COMPLIANT AMENDMENT NOTICE

Dear Examiner Nguyen:

In response to the Non-compliant amendment notice mailed January 30, 2007 please make the following amendments to the application.

Amendment to the Claims begins on page 2 of this paper.

Respectfully submitted,

Clement Cheng, Esq.
17220 Newhope St Ste 127
Fountain Valley, CA 92708-4283
(714) 825-0555 phone; (714) 825-0558 fax

CLAIMS

1. (original) A waterproof LED chain comprising:

a plurality of link units;

a plurality of wire pairs connecting the link units in electrical series;

at least one wire pair connected to a link unit to form external power supply wires;

each link unit comprising at least: a tray housing; a PCB securely received in the housing; a plurality of light emitting diode elements mounted on the PCB in electrical connection with the wire pairs at a wire pair connection point; and cured waterproof resin inside the tray housing encasing the printed circuit board, the wire pair connection point to the PCB and [[the]] a lower half of the light emitting diode elements;

wherein the cured waterproof resin inside the tray housing encasing the lower half of the light emitting diode elements forms a surface defining an outer cover sealing [[the]] an opening of the tray housing to enclose the PCB, wherein the outer cover has a plurality of apertures corresponding to the number of said LED elements and the external power wires at [[the]] a location where the LED elements and the external power wires protrude from the cured waterproof resin.

2. (original) The waterproof LED chain of claim 1, wherein said housing and said outer cover are made of PVC material.
3. (original) The waterproof LED chain of claim 1, wherein a light-emitting portion of the diode elements protrudes outside the housing.
4. (original) The waterproof LED chain of claim 1, wherein a plurality of resistors is included in the electrical circuit for matching LED elements.
5. (original) The waterproof LED chain of claim 1, wherein the LED elements are arranged in a linear configuration within each tray housing.
6. (original) The waterproof LED chain of claim 7, wherein each tray housing is rectangular in shape, and each PCB is rectangular in shape.
7. (original) A waterproof LED chain made by the following steps:

a. soldering a plurality of LED elements at an LED bottom portion to a plurality of PCBs to create a plurality of prepared PCBs units, wherein at least a pair of LEDs are connected to each PCB,

b. soldering a plurality of wire pairs at the end of each PCB at wire connection points to form a continuous chain of prepared PCB units, each wire pair consisting of a positive and negative wire,

c. placing a prepared PCB unit each having LED elements mounted on it into a tray housing, then pouring liquid epoxy resin into the tray sealing the wire connection points and bottom portion of the LED elements,

d. curing the epoxy resin.

8. (original) The waterproof LED chain of claim 7, further comprising the step of including a plurality of resistors in the electrical circuit for matching the voltage of LED elements.

9. (original) The waterproof LED chain of claim 7, wherein the LED elements are arranged in a linear configuration within each tray housing.

10. (original) The waterproof LED chain of claim 7, wherein each tray housing is rectangular in shape, and each PCB is rectangular in shape.

11. (cancelled) A waterproof LED chain comprising:

a plurality of link units;

a plurality of wire pairs connecting the link units in electrical series;

at least one wire pair connected to a link unit to form external power supply wires;

each link unit comprising at least: a tray housing; a PCB securely received in the housing; a plurality of light emitting diode elements mounted on the PCB in electrical connection with the wire pairs at a wire pair connection point; and cured waterproof resin inside the tray housing encasing the printed circuit board, the wire pair connection point to the PCB and the lower half of the light emitting diode elements.

12. (cancelled) The waterproof LED chain of claim 11, wherein said housing and said outer cover are made of polycarbonate material.

13. (currently amended) <u>A waterproof LED chain comprising:</u>

<u>a plurality of link units;</u>

<u>a plurality of wire pairs connecting the link units in electrical series;</u>

<u>at least one wire pair connected to a link unit to form external power supply wires;</u>

each link unit comprising at least: a tray housing; a PCB securely received in the housing; a plurality of light emitting diode elements mounted on the PCB in electrical connection with the wire pairs at a wire pair connection point; and cured waterproof resin inside the tray housing encasing the printed circuit board, the wire pair connection point to the PCB and the lower half of the light emitting diode elements;

[[The waterproof LED chain of claim 11,]] wherein the cured waterproof resin inside the tray housing encasing the lower half of the light emitting diode elements forms a surface defining an outer cover sealing the opening of the tray housing to enclose the PCB, wherein the outer cover has a plurality of apertures corresponding to the number of said LED elements and the external power wires at [[the]] a location where the LED elements and the external power wires protrude from the cured waterproof resin.

14. (original) The waterproof LED chain of claim 7, wherein the LED elements are arranged in a linear configuration within each tray housing.

15. (original) The waterproof LED chain of claim 7, wherein each tray housing is rectangular in shape, and each PCB is rectangular in shape.

16. (original) The waterproof LED chain of claim 7, further including an electrical heat shrink cover formed as a tube fitted over the LED, which provides a watertight seal with the LED becoming integrally formed with the LED such that it becomes the bottom portion of the LED.

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LAW OFFICES OF CLEMENT CHENG
17220 NEWHOPE STREET #127
FOUNTAIN VALLEY, CA 92708

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NGUYEN, KIMNHUNG T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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Failure to Acceptably Respond to Notice of Non-Compliant Amendment (37 CFR 1.121)

No New Time Period for Reply is Provided

The amendment document filed on 2-5-07 fails to provide the corrective action required by the **prior Notice of Non-Compliant Amendment (37 CFR 1.121)** mailed on 1-30-07. The amendment, including both the originally filed amendment and the amendment filed in response to the prior notice, is still considered to be non-compliant under 37 CFR 1.121. In order for the amendment document to be compliant, correction of the item(s) listed below is required. **Only the corrected section of the non-compliant amendment document must be resubmitted (in its entirety), e.g., the entire "Amendments to the claims" section of applicant's amendment document must be re-submitted.** 37 CFR 1.121(h).

The period for reply continues to run from the mailing date of the prior Notice of Non-Compliant Amendment. The corrections listed below must be timely filed to avoid abandonment of the application. No new time period for reply is provided in this communication. See the Manual of Patent Examining Procedure (MPEP) § 714.03.

If the period for reply set forth in the prior Notice of Non-Compliant Amendment has expired, this application will become abandoned unless applicant: (1) corrects the deficiency, **and** (2) obtains an extension of time under 37 CFR 1.136(a). In no case may an applicant reply outside the SIX (6) MONTH statutory period or obtain an extension for more than FIVE (5) MONTHS beyond the date for reply set forth in the prior Notice of Non-Compliant Amendment (37 CFR 1.121).

THE FOLLOWING CHECKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

☐ 1. Amendments to the specification:
- ☐ A. Amended paragraph(s) do not include markings.
- ☐ B. New paragraph(s) should not be underlined.
- ☐ C. Other_____

☐ 2. Abstract:
- ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
- ☐ B. Other_____

☐ 3. Amendments to the drawings: _____

☒ 4. Amendments to the claims:
- ☐ A. A complete listing of all of the claims is not present.
- ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
- ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following 7 status identifiers: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New) and (Not entered).
- ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
- ☒ E. Other: Claim 16 Not present.

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714 and the USPTO website at http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/officeflyer.pdf.

Randall E. Jones
Supervisory Legal Instruments Examiner (SLIE)

(571) 272-1592
Telephone No.

Rev. 7/04